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Nebraska Earth Science Education Network

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Spring 1999 Newsletter

Issue Number 21

"Everything is Connected to Everything Else." - Dave Gosselin, NESEN Director

It's hard to believe that we are rapidly approaching the end of another challenging academic year. It is very important for all of us to take some time and focus on the successes that each one of us had this year. I know from my own experiences teaching an Earth Science class for future educators, as well as coaching 6th/7th grade girls soccer, that working with young people is not easy, especially when they do not necessarily have an appreciation for the experiences that you are trying to provide for them. As you sit back and focus on this year, think back to the beginning of the school year when each of those faces were new and ask yourself how have they changed over the school year. There is probably one positive thing that you can say about each student. If you focus on the positive things, you will find progress and that is what it is all about. I would like to thank our NESEN coordinator, Lyn Harris, for her positive contributions over the last year and a half. Lyn has done a great job keeping things moving forward. We will all miss her, but we wish her the best of luck on her new job and greener pastures in the Kansas City area.

Earth Science in The Community

Over the course of the school year, eighteen secondary teachers and NESEN have been busy assisting the American Geological Institute with the development of a new inquiry-based community-focused, earth science curriculum. At our March "EarthComm" reunion, teachers emphasized the need for a standards-based, community-focused earth science curriculum that promotes independent thinking by students.

Our efforts in reviewing and testing the materials in class have helped to bring the American Geological Institute closer to publishing a curriculum package for secondary earth science. We would like to thank the following teachers for their excellent work:

Ross Dinwiddie, Central City Middle School Steve Ferris, Lincoln High School
Mary Jane Bell, Lyons-Decatur Northeast High School Greg Pavlik, Osmond High School
Sue Frack, Lincoln Northeast High School Walt Shacklett, Bergan High School
Dick Caster, Lincoln Southeast High School Polla Hartley, Albion Public School
Ted Koehn, Lincoln East High School Carol Eischeid, Petersburg High School
Derek Geise, NESEN Lynne Ruth, Rising City High School
Damon Strickland, UNL Richard Smith, Genoa High School
Roseanne Williby, Skutt Catholic High School Don Frenzen, Albion Public Schools
Viki Jackson, Tekamah-Herman High School Ed Schafer, Ralston High School

NESEN Teachers Forum

NESEN computer genius, Bell Solefack has created an online teachers forum where teachers can discuss issues, share ideas, or post announcements about educational resources. You can check out the teachers forum through our home page <http://nesen.unl.edu> or link directly to the page at <http://nesen.unl.edu/Talk>.

Special Conservation and Survey Division Materials Bulletin Inside!

Note: Discounted Prices for Teachers Listed in Parentheses.

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1999 Summer Workshops – Join us in July!

As the days continue to get longer and warmer, you might find yourself daydreaming about summer vacation. We hope that your summer plans will include a NESEN summer workshop. Our workshops continue to be enthusiastically attended by teachers across the state who are interested in the opportunity to further their knowledge about Nebraska's natural resources through field trips and hands-on activities. The workshops are hosted by scientists at UNL and graduate credit is available by prior arrangement with Dave Gosselin.

The cost is \$20 for the first workshop with each additional workshop costing \$15. This fee includes lunch, UNL parking permit, and educational materials. To register, call the NESEN office at 402.472.0773 or email Joy Macklem (00220664@bigred.unl.edu) or 402.472.8919. The 1999 Summer Workshops are:

Why Did the Chicken Change the Climate...? July 7 - 8

Is our climate changing? Participants will look at what governs the climate system and how human impacts on the atmospheric environment may be affecting the climate. This workshop will be loaded with hands-on activities that can be easily used in the classroom. Join us and broaden your knowledge of a contemporary issue that is sure to be a "hot" topic well into the next millennium. Facilitators: Steve Meyer and Dave Gosselin

Virtual Nebraska—A New View - July 12 - 13

Get a new perspective of Nebraska! Find out how you can use "Virtual Nebraska," an online archive of satellite imagery and aerial photography, in your classroom. Satellite and space shuttle imagery makes it possible for us to study the states' geography and topography. Participants will be guided through various applications of Virtual Nebraska and given education modules and 'building blocks' materials for teachers using the imagery. Check out the Virtual Nebraska website <http://www.casde.unl.edu/vn.html>. Brent Hollinger and Steve Perk, both former teachers, will be presenting.

The 'Dirt' on Soil - July 14 - 15

Develop a better understanding about what makes up a soil. Find out why soil scientists scoff at the word 'dirt'. Activities will include soil interpretation, determining texture, organic-matter content, and soil type and mapping projects. We will also discuss the relationships between soil and agriculture, people, and the larger environment. Facilitator: Francis Belohlavy.

Earthworks: Earth Systems Science for Secondary Teachers

June 20 - 25, 1999

Balarat Center (in the mountains northwest of Boulder, Colorado)

This one-week workshop provides an opportunity for teachers to investigate Earth systems science. The goals and objectives this year are to give participants first hand experience in designing and conducting small research projects based on Earth systems science. We'll combine geology, meteorology, biology, chemistry and more to study the environment around us. You'll work with scientists and other teachers to develop your understanding of the Earth as well as your teaching skills.

The focus will be on providing a self-directed learning experience in which you can develop an understanding of Earth systems and share that understanding with others. You'll become part of an ongoing community including teachers and scientists, which provides discussion and support throughout the school year.

Cost to participants will be minimal (most expenses will be covered). The program is sponsored by CIRES (Cooperative Institute for Research in Environmental Sciences), University of Colorado, Boulder, and by NASA's Earth Science Enterprise. For further information, or to apply, please contact:

Jack Ganse

CIRES, Campus Box 216, University of Colorado, Boulder, CO 80309

Phone: (303) 492-5657 Fax: (303) 492-1149

E-mail: jganse@earthlink.net Website Application: <http://cires.colorado.edu/~k12/earthworks>

The application deadline is April 30, 1999. Please apply early-space is limited.

The T in STEDII - by Mark Mesarch

We will conduct our spring focused measurement period from April 26th to May 10th. When the Students and Teachers Exchanging Data, Information and Ideas (STEDII) weather project started over four years ago, NESEN had objectives of letting students learn about weather in a very interactive arena. Students would get to take data with simple meteorological instruments and then be able to share their information with other students all over Nebraska via the Internet. We allowed STEDII to be very flexible and fit into the teacher's schedule while hopefully keeping it interesting for the students.

After interviewing a sample of the teachers that have been involved with STEDII on a regular basis, we found that the teachers had a slightly different set of objectives for using STEDII. For most of the teachers, teaching basic concepts about weather was an important objective. But for many an equally important objective was having their students learn how to take data and to become confident of what was good and bad data. The use of the Internet to submit their data to a centralized database for sharing of information had the much broader objective of learning how to use the Internet and learning that they were involved in a larger project than just their own school. Although exchanging of data and ideas is still a possibility for the STEDII weather project, another untapped area is for teachers to use the data they have collected from previous years as a way of looking at climate variability.

New Lessons on the Internet - by Mark Mesarch

Some of the activities that were developed by teachers after attending the NIGEC 1998 Summer Workshop on Environmental Change are now available on our web site at <http://nesen.unl.edu/nigec/activities/activities98.html>.

Cindy Karel, Christina Pritchard-Laska and Julia Schonewise have developed a unit on the Industrial Revolution for science, english and social studies disciplines. This unit was developed for high school sophomores.

Lorianne Etherton and Mary Jane Bell have developed climate change activities that will be used in the same school district but at the 5th/6th grade level and then again at the 9th grade level.

"Climate and Atmosphere: A Global and Local Perspective or, Cinderella, Does the Slipper Really Fit?" was developed by Darin Boysen and Bob Feurer for the seventh grade, combining social study and science disciplines.

Most of the units have comments from the teachers about how they used the activities in their classrooms and a little about how they evaluated the effectiveness of their teaching. Check out these activities and if you use any of them, let us at NESEN know your comments.

Climprob for the Net

ClimProb is a computer program created by Steve Meyer and Brian Lang that allows users to retrieve climate data sets (max/min temperature & precipitation) from over 800 weather stations throughout the United States. Many of the weather stations have been recording data since the early 1900's! After selecting a weather station from which to view data, ClimProb will automatically graph the information in a variety of formats, including

histograms and probability distributions. ClimProb's user friendly interface makes it easy for students to compare and interpret data and decide whether or not global warming is an actual phenomenon affecting our Earth system. It is particularly remarkable to look at precipitation data from around the Midwest during the 'Dust Bowl' period in the 1930's. If you would like to receive a free account to use ClimProb, please contact Steve Meyer at 402.472.8768 or agme007@unlvm.unl.edu.

NATS Needs You

The Nebraska Association of Teachers of Science (NATS) needs presenters for their annual fall conference at Camp Calvin Crest, October 28-30th. The fall conference is an excellent professional development opportunity with workshops, speakers and concurrent sessions on a variety of science topics. If you would like to be a presenter, contact the NESEN office for a NATS Program Proposal form. You can also contact Susan Koba, Omaha Public Schools, 3215 Cumming Street, Omaha, NE 68131-2024 for a proposal form and more information about NATS. Proposals are requested by May 15.

Are You Itching to Win a Trip to Space Camp?

The Lanacane™ "Itching To Know Science" Contest is awarding a free trip to U.S. Space Camp to a K-6 student who submits an 'out of this world' question about space. The 10 most intriguing questions chosen by the judges will be answered in a letter from a NASA astronaut. One of the 10 winners will be randomly selected to receive a three-day trip (along with one parent) to U.S. Space Camp. Ten regional winners will each receive \$200 in prizes.

Elementary school teachers are being asked to submit their best original lesson plan or science experiment on the overall topic of "space," or a specific aspect of space. The Grand Prize winning teacher will receive a trip to U.S. Space Camp for Educators in Alabama and \$500, along with other prizes.

How to Enter: Deadline for entries is May 1, 1999

Official rules and contest entry forms are available online at www.lanacane.com or write to:

Lanacane "Itching To Know Science Contest" Entry Forms

P.O. Box 328-ITK

White Plains, NY, 10602-0328

(please specify student or teacher forms - or both - on envelope)

Students can also enter by email. Include your name, age, home address, parent name, teacher name, grade and either school or home phone number along with your space question to ItchRelief@aol.com. If the emailed entry makes it into the final stages of judging, you will be contacted to submit an official entry form. Teachers must mail their entries accompanied by an official entry form - no lesson plans will be accepted via email. Winners will be announced at the NSS International Space Development Conference in Houston beginning May 27, 1999.